Saskatchewan
Environment
and Resource
Management

Recycling in Saskatchewan

Discarding unwanted items or materials in Saskatchewan's approximately 600 waste disposal sites creates problems for the facility and its operators. Much of this material is not readily broken down by natural processes, creating large mounds of material that must be buried to reduce wind-blown litter, bad odors and rodents. Discarded waste also may contain toxic or hazardous substances like oils paints, and other wastes that have a potential for damaging the environment.

On a national level, Canada's Resource and Environment Ministers determined waste management was an urgent and pressing national problem, in part, because some jurisdictions were already running out of waste disposal ground space. In 1989, they announced a national goal of reducing waste being sent to disposal grounds by 50 per cent by the year 2000. This goal would be achieved by reducing, recycling and reusing at the consumer level as well as at the manufacturing, shipping and distribution level.

Saskatchewan Environment and Resource Management (SERM) implemented waste reduction educational programs, including workshops and information distribution to raise public and civic awareness of the importance of reducing, recycling and reusing. This included a series of waste disposal ground operator workshops and information kiosks that were sent to municipalities and public buildings by SERM. In 1991, the Municipal Solid Waste Management Assistance Program was announced by SERM to demonstrate regional waste handling, which resulted in the implementation of the Regional Authority of Carleton Trail waste disposal program.

Recycling means diverting waste material before it reaches the waste disposal grounds and turning it into a resource that can be sold and used in the manufacture of new items. This reduces the amount of waste going to waste disposal grounds, increases their projected life span and ultimately reduces operating costs.

This publication lists a number of province-wide recycling initiatives currently underway in Saskatchewan that have a major impact on the future of waste disposal grounds.

Beverage Container Collection and Recycling

Empty non-refillable beverage containers made from aluminum, tin, plastic, glass and cardboard (aseptic) juice boxes might take up excessive space in our waste disposal grounds if discarded. However, they are a valuable resource if recycled into consumer products.

Program objective: to provide a provincial system to collect and recycle beverage containers that have been sold and distributed in Saskatchewan.

The program is administered by the Saskatchewan Association of Rehabilitation Centers (SARC). Its recycling division, SARCAN, operates under contract to SERM and is authorized by *The Litter Control Act*. SERM designates the containers which can be collected for recycling and establishes the refundable deposit and the Environmental Handling Charge (EHC) that consumers will pay.

The consumer pays a refundable deposit and an EHC on the beverage container to the retailer which in turn is passed through the distributor to the government. When returning the container to a SARCAN depot, the consumer receives the deposit refund from SARCAN. The deposit paid out is subsequently reimbursed to SARCAN by the government. The EHCs are not refunded to the consumer and help to finance SARCAN's province-wide transportation, processing and marketing system. This currently covers all ready-to-serve beverages packaged in non-refillable containers (except milk) which include soft drinks, fruit juices, fruit drinks, bottled waters and liquor containers.

There are 71 SARCAN depots in 62 Saskatchewan communities. SARCAN also operates processing centers in Saskatoon and Regina. Aluminum is compressed into 450 kilogram bales, each containing an average of 26,600 crushed cans. Tin/bimetal cans are compressed into heavier, 590 kilogram bales containing about 17,000 crushed cans. Plastic is sorted by type and color and then compressed into 450 kilogram bales. Glass is sorted by colour and crushed. Juice boxes are compressed into 590 kilogram bales. All this work is done on site and primarily by employees with disabilities. SARCAN also collects refillable beer bottles for which it pays a discounted refund of 5 cents and plastic milk jugs for which it does not pay a refund.

- The recycled materials are converted into new products. Aluminum becomes new aluminum cans; tin/bi-metal cans become new steel pipe; and plastic is converted into non-food bottles, polyester clothing and carpeting. Glass is made into new bottles, reflective beads for highway striping and fiberglass insulation. Juice boxes are converted into paper products and aluminum foil and milk jugs are converted into non-food containers.

Amounts collected are staggering and represent a return rate of 92 per cent, one of the highest in North America. In 1998/1999, SARCAN recycled over 230 million beverage containers, 11 per cent more than in the previous year. So far SARCAN has recycled 14,128 tonnes of material, diverting it from our waste disposal grounds, thus extending their life span by many years. Also in 1998, SARCAN recycled its one billionth container!

For information contact SARCAN Recycling at 111 Cardinal Crescent, Saskatoon, S7L 6H5, Ph: 1-800-667-3016.

Paint Disposal and Recycling Program

Paint, stains, varnish and paint solvent can create a problem when improperly disposed by dumping on the ground, into a sewer or into a waste disposal ground.

Program objective: to divert household hazardous paint waste from waste disposal grounds and sewers in an environmentally friendly manner and where possible to re-use good paint within the community.

The program is operated by the cities of Estevan, Melfort, Moose Jaw, North Battleford, Prince Albert, Regina, Saskatoon, Swift Current, Weyburn and Yorkton and the towns of Battleford and Meadow Lake in partnership with SaskTel. These municipalities provide program advertising and a collection facility for a set number of days per year and SaskTel provides the safety equipment, knowledge and volunteer staff. The municipalities contract the disposal and share the cost with Sask Tel.

- Paint and paint products are collected and re-usable product is made available for re-use within the community. Unusable product is delivered in 205 liter drums to a hazardous waste disposal facility. Empty paint cans are recycled at IPSCO.

Amounts collected -170 drums of 205 liter capacity of paint were disposed and about 3,500 liters of paint were re-used in 1998. Nearly nine tonnes of paint cans were recycled.

For information on the province-wide program, contact Safety and Environment, SaskTel, 2ndFloor 2121 Saskatchewan Drive, Regina S4P 3Y2, Ph: 306-777-2747. For local information, contact the local City or Town Hall.

REUSE
REDUCE
RECYCLE
RECOVER

Municipality-Based Initiatives

Throughout the province, many partnerships have been formed with municipal authorities to expand recycling activities. One of the most significant is the partnerships between rehabilitation centers and their communities with 24 Saskatchewan Association of Rehabilitation Centres (SARC) member community rehabilitation centers that have engaged in extended recycling activities. Building on the successes of SARCAN in employing people with disabilities, these centers have taken on the recycling of paper and cardboard and in some cases non-deposit tin cans, glass jars, plastic bottles and used clothing.

In addition, there are numerous other initiatives currently underway in Saskatchewan's municipalities to promote recycling thus reducing waste generation rates and volumes of waste going to waste disposal grounds significantly. A few examples follow.

Delisle:

The town (pop. 840) implemented a user pay system in 1994 to decrease waste production and associated costs. Each garbage can (preferred) or bag must bear a tag that costs $1.00 to assure pick up. The town also set up a recycling program for paper, compost and metal. With an annual sale of tags generating $15,000 in revenue and the recycling program, waste disposal has been a break-even venture. Waste generation rates have decreased and are 200 kilograms per person per year. For information, contact the Town Administrator, Box 40, Delisle S0L 0P0, Ph: 306-493-2242, FAX: 306-493-2263.

Outlook:

The town (pop. 2,116) established its own comprehensive recycling program in 1994, which includes a processing plant that bails tin, plastic bags and crushes glass. Also an on-site granulator reduces plastic to fine chips. There are five drop-off locations, including the processing plant. Paper, boxboard, cardboard, tin, glass and plastic can be dropped off, compost is collected curbside and metal, concrete and wood are separated at the waste disposal ground. Compost is processed at the waste disposal ground. In 1998, there were 23 semi loads of mixed paper products that left the town for recycling.

The Town realized a 25 per cent time reduction on residential garbage collection, an 80 per cent reduction of time spent at the waste disposal ground, including compost handling. In 1998 there was a 58 per cent reduction in volume of waste received at the waste disposal ground, extending its life span by 125 years. For information contact Superintendent of Municipal Operations, Box 682, Outlook S0L 2N0, Ph: 306-867-8663, FAX: 306-867-9898 or contact at town@town.outlook.sk.ca by e-mail.

Regina:

The city had been documenting the various types and weights of waste going to the waste disposal ground for many years. Figures provided for a 10 year review from 1988 until 1998 allowed one to calculate the total waste going to the disposal ground.

Year	*City Population*	*Waste generation rate (tonnes/person/year)*	*Total waste generated (tonnes)*
1988	179,400	1.23	220,662
1998	187,500	0.74	138,750

The reduction in waste being sent to the waste disposal ground can be attributed to numerous recycling programs operating in the city. They include the Big Blue Bin (BBB) program encompassing 12 locations that collect all forms of paper. The city also contracts the processing of approximately 6,100 tonnes of paper at its recycling plant. Tin and glass are recycled through drop-off bins run privately through Loraas disposal, at six BBB locations. The tin is recycled at IPSCO and the glass is crushed. The city operates a highly successful Paint Recycling Program, a Christmas Tree Mulching Program (15,000 -17,000 trees/year) and a white metal recycling program (506 tonnes, including stoves and refrigerators were recycled at IPSCO in 1998). For information, contact Waste Diversion Coordinator, City of Regina, P.O. Box 1790, Regina, SK S4P 3C8, or at Ph: 306-777-7286 or FAX: 306-777-6827.

For information on recycling programs in other cities, contact the Waste Diversion Coordinator at the local City Hall.

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Used Oil Recycling Program

Used oil is the largest source of waste dangerous goods in the province. When disposed of improperly it can contaminate the air and the soil and can make water unfit for drinking. Since it can be re-refined into a product with the same qualities as it originally had, and since oil is a non-renewable resource, it makes sense to recycle it and not to discard it.

Program objectives: to establish a province-wide used oil recycling program that meets Saskatchewan's *Used Oil Collection Regulations* and that maximizes the cost-effective collection of oil, filters and containers. The Saskatchewan Association for Resource Recovery Corp. (SARRC), a non-profit, non-government organization, was formed in February 1996 by the oil and oil filter industry. SARRC's 94 members represent major oil, filter and container manufacturers and marketers in Canada and the USA. There are similar organizations in Alberta and Manitoba.

The program is funded by industry which remits an EHC on the sale of new oil, oil filters and oil containers to SARRC.

The program has encouraged the development of over 250 used oil collection facilities that consumers can use in over 150 communities. SARRC pays Return Incentives to encourage registered private-sector carriers to pick up used oil, filters and containers from farm, industrial, commercial and institutional markets and deliver them to registered processors or end users throughout the province. SARRC maintains a list of registered carriers and a list of products eligible for a Return Incentive.

EcoCenters were developed by SARRC and its counterparts in Alberta and Manitoba to act as environmentally sound collection facilities, ideal for do-it-yourselfers, farmers and small business operators. Each EcoCenter meets the highest environmental standards and accepts up to 500 litres of used oil per delivery, filters and oil containers under 30 liters in size. Registered carriers pick up these materials for delivery to registered processors or end users. There are plans for more than 30 such centers in Saskatchewan by 2001; currently there are ten in operation. They are located in Bengough, Davidson, Esterhazy, Humboldt, Melfort, Outlook, Preeceville, Rosetown, Weyburn and Wynyard and are operated by local owners/operators.

The program's success represents a notable achievement for the members of SARRC; for the private sector recycling industry which collects, transports and processes used oil materials; and for the consumers from the industrial, commercial and institutional sectors through to farmers and do-it-yourselfers.

- The used oil is reprocessed into industrial burner fuel, re-refined lubricating oil and other industrial products;
- Used oil filters are processed into structural metal used to manufacture industrial and agricultural products; and
- Plastic oil containers are recycled into industrial parts, parking posts, shipping pallets and new containers.

Amounts collected in 1998, the first full year of operation, include:

- 14.7 million liters of a possible 20 million liters of used oil were recycled; before the program only about 6 million liters were recycled per annum;
- 1.27 million of a possible 2 million oil filters were recycled; most were discarded before the program; and
- 921,000 of a possible 7 million oil containers were recycled; before the program there was very little recovery.

The indications in mid-1999 are that amounts collected for the full year will exceed those collected in 1998 by 10 to 20 per cent.

For information contact SARRC at 2366 Avenue C North, Saskatoon S7L 5X5 or call the toll-free information line at 1-877-OIL-SASK. Or visit SARRC at www.usedoilrecycling.com on their website.

Pesticide Container Collection Program

Each year at the end of a growing season, Saskatchewan farmers end up with several million used plastic pesticide containers that represent a valuable resource that can be recycled safely if properly cleaned.

Program objective: to provide Saskatchewan farmers a provincial system to collect and recycle used pesticide containers.

The program is co-ordinated by the Saskatchewan Pesticide Container Management Association Inc. in conjunction with the Crop Protection Institute. Crop protection distribution companies and approximately 200 participating retail dealers are voluntary participants in the program. As well, there are about 240 collection sites provided by rural municipalities.

Product users are required to clean, triple rinse, properly drain and dry the plastic containers before returning them to participating dealers or to protected rural municipal sites. Dealers seal the containers in specially designed plastic bags, which are transported by the distributors to a central depot. Containers are also collected from protected rural municipal sites.

- Containers are shredded, and the plastic is recycled into curbstops and fence posts, or used as an energy source in some industrial plants.

Amounts collected include nearly 1.6 million plastic containers during 1998, representing a return rate of about 60 per cent. This is equivalent to 500 tonnes of valuable resource material that can be recycled.

For information on where to deposit containers, contact the Saskatchewan Pesticide Container Management Association at Ph: 1-800-567-7262 or consult the nearest local municipal office.

Saskatchewan Waste Reduction Council (SWRC)

SWRC is a nonprofit, non-government organization whose mission is to help Saskatchewan and its people attain the environmental, economic and cultural benefits that come from reducing waste. Their goal is to make waste reduction a commonplace activity in Saskatchewan.

SWRC helps to maintain a resource center on waste reduction and other environmental issues. It has information on a wide range of topics and issues and responds to information requests from businesses, municipalities, community groups and students about recycling and waste reduction. SWRC has developed partnerships with governments, businesses and community groups to carry out projects and activities, such as workshops and presentations on waste reduction issues, and a semi-annual Waste Minimization Update Forum. It carries out a variety of composting education activities as well. Its member newsletter, WasteWatch, is published quarterly and contains updates on various waste reduction activities. It produces Reusing and Recycling in Saskatchewan, a directory of recycling programs for the province and publishes a variety of Fact Sheets on recycling, reducing and re-using.

The board of directors has representatives from business, governments, nonprofit organizations and individuals. Contact the SWRC at #203 -115 2nd Ave North, Saskatoon S7K 2B1, Ph: 306-931-3242 or Fax: 306-665-2128 or at swrc@link.ca by e-mail. Also visit SWRC at www.link.ca/~swrc on their web site.

Regional Authority of Carleton Trail (REACT)

In 1993, a pilot project was started in the Humboldt area with funding assistance from SERM. The area of study (pop. 20,000) comprised seven towns, 10 villages and 10 rural municipalities. At the outset, waste generation rates were estimated to be 600 kilograms of waste per person per year.

In 1996, when the program was implemented, 26 disposal grounds were amalgamated into two larger sites and the rest were closed after transfer stations were established at 10 former sites. Three collection systems were implemented: local, regional and recycling collection. Waste collection is based on user pay tag system; organic management was left to the responsibility of the urban municipalities.

To divert as much waste as possible from the waste disposal grounds, REACT operates 19 drop off recycling centers with bins for newsprint, office paper, cardboard, magazines, household plastic, tin and glass. Metals, tires, used oil, empty pesticide containers and lumber can be dropped off at the transfer stations and regional waste disposal grounds. In 1998, there were 980 tonnes of waste diverted, including plastic (150 tonnes), tin (27 tonnes) and paper/cardboard (803 tonnes).

The REACT waste disposal grounds received 6,500 tonnes of waste in 1998; this was a waste generation rate of 0.34 tonnes of waste per person per year and represents a waste reduction of almost 40 per cent from 1996. For information, contact: REACT, Box 810, Humboldt, S0K 1A0, Ph: 306-682-1955, FAX: 306-682-1956.

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Scrap Tire Program

In Saskatchewan we generate a million scrap tires every year, enough to cover 70 football fields! Tires are manufactured to be long lasting, and this becomes an environmental liability when disposing of the tires. They don't breakdown easily, they take up significant space in waste disposal grounds, attract vermin and pose a fire hazard. Chemicals from burned tires poison the air and leach into the soil, polluting ground water.

Program objectives: the Saskatchewan Scrap Tire Corporation (SSTC), a non-profit, non-government agency formed in 1996, manages a program to collect tires and to recycle them from a harmful waste into useful products. At the request of industry, the government passed *The Scrap Tire Management Regulations*, in 1998, making it mandatory for all tire retailers to participate in the program or to contract an agency to provide this service.

The program has a current membership of 1,000 retailers, including all who sell or supply new tires either individually or on vehicles (such as cars, trucks, farm implements, recreation vehicles). Retailers collect a recycling fee on every new tire sold in Saskatchewan, remit the fee to SSTC and send the used tires to a recycling plant. These recycling fees finance the program and support projects and companies that recycle scrap tires. There are similar programs across Canada and the USA, however Saskatchewan's program is unique in that it collects tires of all sizes and charges varying recycling fees based on tire size.

- Tires find new life as truck box liners, planters, playground equipment, vehicle ramps, flooring, civil engineering material and alternate fuels; new products using scrap tires are continually being developed.

Amounts collected were reported by October 31, 1999 as follows:

- over 376,00 tires of all sizes have been collected, amounting to 850,000 passenger tire equivalents; and
- 537,000 passenger tire equivalents have been recycled.

Since its inception in May 1996, the SSTC program has recycled the equivalent of over one million used passenger tires. Our environment will benefit from this effective waste management program and pressures on community waste disposal grounds will be reduced.

For information contact the SSTC at P.O. Box 1936, Regina S4P 3E1, Ph: 306-721-TIRE (721-8473), FAX: 306-721-1585.

What else can one recycle?

Although there is little uniformity across the province in terms of materials that can be recycled and by which firm or agency, there is an extensive list of items that can be recycled, that includes, but is not limited to the following:

animal products
antifreeze
batteries (rechargeable)
building materials
(doors, lumber, paneling, plywood, windows, etc.)
cardboard
clothing
dry cleaning liquid waste
eye glasses
metals (brass, copper, stainless steel, etc.)
office products (eg. printer cartridges)
other plastics
(eg. Packing "peanuts", shopping bags, styrofoam)
paper of various types
refrigerants (freon)
solvents
tin cans
vehicles and scrap machinery
yard wastes (eg. grass, leaves, vegetable matter)

For specific information on what and where to recycle in your community, contact your municipal office, or the agencies listed in this brochure. Also please refer to the local telephone directory yellow pages under "Recycling", the local newspaper or the SWRC directory *Reusing and Recycling in Saskatchewan*.

Recycled Paper

5M-2000